

WHAT IS CLAIMED IS:

1. A process for sealing and insulating a fuel cell plate, the process comprising:
providing a fuel cell plate having first and second surfaces;
applying a coating precursor on at least the first surface of the fuel cell plate, the coating precursor adapted to polymerize or to cross-link in response to infrared radiation or heat; and
exposing the coating precursor on the fuel cell plate to infrared radiation or to heat to initiate polymerization or cross-linking.
2. The process of claim 1, wherein the coating precursor is applied by screen printing.
3. The process of claim 1, wherein the coating precursor is exposed to infrared radiation.
4. The process of claim 1, wherein the coating precursor is exposed to infrared radiation or to heat for about less than about forty five minutes.
5. The process of claim 1, wherein the coating precursor is exposed to infrared radiation or to heat for about less than about thirty minutes.
6. A process for sealing and insulating a fuel cell plate, the process comprising:
providing a fuel cell plate having first and second surfaces;
applying a coating precursor on at least the first surface of the fuel cell plate, the coating precursor adapted to polymerize or to cross-link in response to infrared radiation; and
exposing the coating precursor on the fuel cell plate to infrared radiation or to heat to initiate polymerization or cross-linking, wherein the coating precursor includes an epoxy resin and an acrylonitrile butadiene copolymer.
7. The process of claim 6, wherein the coating precursor includes a cross-linking agent.
8. The process of claim 7, wherein the cross-linking agent is a polyamine.

9. The process of claim 6, wherein the coating precursor includes a thermoplastic.
10. The process of claim 9, wherein the thermoplastic is polyvinylchloride resin.
11. The process of claim 6, wherein the coating precursor includes a solvent.
12. The process of claim 6, wherein the coating precursor includes a colorant.
13. The process of claim 6, wherein the coating precursor includes an air-release agent.
14. The process of claim 6, wherein the coating precursor includes slip agent.
15. An insulated fuel cell plate comprising:
a plate having first and second surfaces; and
a solid coating adhering to at least one of the first and second surfaces of the plate, the solid coating comprising an epoxy nitrile resin.
16. The insulated fuel cell plate of claim 15, wherein the solid coating is less than about 250 μ thick.
17. The insulated fuel cell plate of claim 15, wherein the solid coating is less than about 150 μ thick.
18. An insulated fuel cell plate comprising:
a plate having first and second surfaces; and
a coating precursor applied on at least one of the first and second surfaces of the plate, the coating precursor comprising:
an epoxy resin;
an acrylonitrile butadiene copolymer;
a thermoplastic film-former;
a polyamine cross-linking agent; and
a solvent.

19. The insulated fuel cell plate of claim 18, wherein the thermoplastic film-former is a polyvinylchloride resin.

20. The insulated fuel cell plate of claim 18, wherein the coating precursor includes a colorant.

21. The insulated fuel cell plate of claim 18, wherein the coating precursor includes an air-release agent.

22. The insulated fuel cell plate of claim 21, wherein the air-release agent is a polydimethylsiloxane.

23. The insulated fuel cell plate of claim 18, wherein the coating precursor includes a slip-aid.

24. The insulated fuel cell plate of claim 23, wherein the slip-aid is a polytetrafluoroethylene powder.